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09/594,226	06/14/2000	Greg Richardson	5150-39900	7841

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EXAMINER

CAO, DIEM K

ART UNIT

PAPER NUMBER

2126

DATE MAILED: 05/28/2004

12

Please find below and/or attached an Office communication concerning this application or proceeding.

12

# Office Action Summary

Application No.

09/594,226

Applicant(s)

RICHARDSON ET AL.

Examiner

Diem K Cao

Art Unit

2126

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 12 April 2000.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,4-9,12-20,22-34,37-42,45 and 46 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4-9,12-20,22-34,37-42,45 and 46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. This Office action is in response to the Amendment filed on 4/12/2004.
2. Claims 1,4-9,12-20,22-34,37-42,45 and 46 remain in the application.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 20 and 22-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brandle et al. (U.S. 5,146,593) in view of Admitted Prior Art (APA).
5. **As to claim 20**, Brandle teaches a computer including a CPU and memory (The software system ... desktop computer; col. 2, lines 50-54), a shared library (library; col. 2, lines 58-67), the shared library includes an entry point function (a service director 12; col. 2, lines 58-67) associated with a library procedure (library procedures 22, 24, 26, and 28; col. 2, lines 58-67), in response to a program calling the entry point function (the service director 12 ... are called; col. 3, lines 19-20), the entry point function is operable to invoke the library procedure (When an application 16 ... and then calls it; col. 3, lines 36 - 54).
6. However, Brandle does not teach the entry point function associated with a graphical program, wherein the graphical program comprises a plurality of connected nodes which visually

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indicate functionality of the graphical program, and the entry point function is operable to invoke the graphical program. APA teaches the shared library includes an entry point function associated with the graphical program (a DLL that has entry point that call a graphical program; page 5, lines 11-14), the graphical program comprises a plurality of connected nodes which visually indicate functionality of the graphical program (the user may select various function nodes or icon ... his desired process; page 3, line 28 – page 4, line 5), and executing a graphical program through a shared library (Previous approaches to enabling graphical programs to be called using shared libraries ... graphical program; page 5, lines 11-14).

7. It would have been obvious to one of ordinary skill in the art at the time the invention was made improve the system of Brandle by combining the teaching of Brandle and APA to access the graphical program through a shared library so the graphical program could be use by multiple programs.

8. **As to claim 22**, Brandle as modified teaches the graphical program comprises executable code included in the shared library (common libraries of procedures are ... function; col. 1, lines 35-44 and Typical system services ... program; col. 3, lines 19 - 35).

9. **As to claim 23**, Brandle as modified teaches calling the entry point function comprises passing one or more parameters to the entry point function (When an application 16 ... parameters passed thereto; col. 3, lines 36-50), the entry point function invoking the graphical program comprises the entry point function passing the one or more parameters to the graphical

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program (Once the service director 12 ... parameters to be passed thereto ... and then calls it; col. 3, lines 51-58).

10. **As to claim 24**, Brandle as modified teaches (col. 3, lines 51-58) the graphical program produces one or more output values (results returned from the procedure) to the entry point function (are passed to the service director 12), the entry point function returns the one or more output values (the service director 12 ... returns them to the stub procedure 14).

11. **As to claim 25**, Brandle as modified teaches the entry point function transforming the parameter into a format expected by the graphical program (The service director 12 ... procedure 22-28; col. 6, lines 8-34), the entry point function passing the transformed parameter to the graphical program (Once the forgoing ... and calls it 82; col. 6, lines 35-66).

12. **As to claim 26**, Brandle as modified teaches calling the entry point function comprises passing a parameter to the entry point function (When an application 16 ... parameters passed thereto; col. 3, lines 36-50), the entry point function copying the parameter into a location expected by the graphical program (an implementation of one language may pass parameter and return results in registers ... stack; col. 3, line 59 – col. 4, line 2).

13. **As to claim 27**, Brandle does not explicitly teach calling the entry point function is performed by a particular thread, and the graphical program executes within the context of the particular. It is well known in the art the thread is used carry out tasks, it should be obvious to

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have a thread in the system of Brandle to carry the task of calling and executing the graphical program.

14. As to **claim 28**, Brandle does not explicitly teach the shared library is one of a Windows DLL, a Unix shared library, and a Macintosh code fragment. APA teaches the shared library is one of a Windows DLL, a Unix shared library, and a Macintosh code fragment (page 4, line 26 – page 5, line 4).

15. As to **claim 29**, Brandle teaches calling the entry point function of the shared library is performed by a program created using a text-based programming language (The application program 16 ... C or COBOL; col. 3, lines 1-6).

16. Claims 16-18 and 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted Prior Art (APA) in view of Wadhwa et al. (U.S. 6,389,588 B1) further in view of Hullot (U.S. 5,163,130).

17. As to **claim 16**, APA teaches the graphical program comprises plurality of connected node which visually indicate functionality of the graphical program (the user may select various function nodes or icon ... his desired process; page 3, line 28 – page 4, line 5), wherein the graphical program comprises at least one input received by a first node (input variable, node or icon; page 2, line 22 – page 3, line 10) and at least one output produced by a second node of the graphical program (output variable, icon; page 3, lines 1-13). APA also suggests share library is

used to share executable code or interface with other types of executable code (page 4, lines 26-29), and applications can interface with a graphical program through dynamic link library (page 5, lines 5-14).

18. However, APA does not teach selecting a program in response to the user input, specifying a functional interface for the program, wherein the specifying comprises mapping the at least one input and the at least one output to entry point function parameters, and creating a shared library comprising the graphical program. Wadhwa teaches creating a shared library from existing programs that comprises a program (Such new programs ... can be built into executable programs or dynamic link libraries DLLs; col. 7, lines 43-52). Inherently, the shared library includes a function specified for the program. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Wadhwa to the system of APA because it provides a method to share graphical program to other applications.

19. Hullot teaches selecting a program in response to the user input (when a user has entered ... identified to the system the program the program file for which the interface is to be created; col. 4, lines 3-11), specifying a functional interface for the program (the user has defined ... to be displayed in field 142; col. 4, lines 26-35), wherein the specifying comprises mapping the at least one input and the at least one output to entry point function parameters (the user program ... for taking two numbers x and y, as inputs and displaying their sum as the result, r; col. 4, lines 3-11 and With the variable of myProgram ... for other connections; col. 5, lines 16-27). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the

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concept as taught by Hullot to the system of APA as modified by Wadhwa because it provides a graphic interface configuration utility that would allow fields in the interface to be linked to the underlying program.

20. **As to claim 17**, APA teaches the graphical program has associated inputs and outputs (input, output; page 3, lines 1-3). However, APA does not teach specifying a functional interface for the graphical program comprises a user specifying a mapping of the associated inputs and outputs to parameters in a function declaration. Hullot teaches a program that takes inputs, x and y, and display their sum as result output, r (col. 4, lines 3-11), and the user maps the fields to the variables x, y, and r (col. 4, lines 36-42 and col. 5, lines 16-27). It would have been obvious, when the program is built as a DLL, it would have export function that takes x and y as inputs and produces r as output.

21. **As to claim 18**, it is the same as the claim 17 above except the automatically mapping is used instead of a user specify a mapping.

22. **As to claim 30**, see rejection of claim 16 above. Hullot further teaches a computer including a CPU and memory (system 900 includes CPU 901, main memory 902; col. 9, lines 42-65), a graphical programming system (graphic interface configuration system; col. 4, lines 3-11).

23. **As to claims 31-32**, see rejections of claims 17-18 above.



24. Claims 1, 4-9, 12-15, 19, 33-34, 37-42, and 45-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hullot (U.S. 5,163,130) in view of Admitted Prior Art (APA) and Wadhwa et al. (U.S. 6,389,588 B1) further in view of Brandle et al. (U.S. 5,146,593).

25. **As to claim 1**, see rejection of claim 16 above. However, Hullot does not teach calling the entry point function of the shared library, wherein the entry point function is associated with the graphical program, the entry point function invoking the graphical program in response to the calling entry point function, and the graphical program executing in response to the invoking the graphical program. Brandle teaches calling the entry point function of the shared library (the service director 12 ... are called, library; col. 3, lines 19-35), wherein the entry point function is associated with the library procedures (library procedures 22, 24, 26, and 28; col. 2, lines 58-67), the entry point function invoking the library procedures in response to the calling entry point function (When an application 16 ... and then calls it; col. 3, lines 36 - 54), and the library procedures executing in response to the invoking the library procedures (Any service returned by the procedure ... stub procedure 14; col. 3, lines 51-58).

26. It would have been obvious to improve the system of Hullot by applying the teaching of Brandle because it provides a method that allows programs to call common library procedures using standard format (col. 2, lines 5-31).

27. **As to claims 4-9**, see rejections of claim 22-27 above.

28. **As to claim 12**, Hullot does not explicitly teach creating the shared library comprises excluding a portion of the graphical program that is not necessary for execution. Wadhwa teaches creating the shared library comprises excluding a portion of the graphical program that is not necessary for execution (locate or extract the business rules; col. 4, line 37 – col. 7, line 52). It would have been obvious to one of ordinary skill in the art to apply the teaching of Wadhwa to the system of Hullot because it would provide a method to create a shared library with only useful functions.

29. **As to claim 13**, Hullot does not teach the excluded portion comprises information consisting of user interface display information and block diagram information. Wadhwa teaches only business rules are extracted (locate or extract the business rule; col. 4, line 37 – col. 7, line 52). It would have been obvious to apply the teaching of Wadhwa to the system of Brandle to exclude the user interface display information and block diagram information because they are system specific.

30. **As to claims 14-15**, see rejections of claims 28-29 above.

31. **As to claim 19**, APA as modified does not teach in response to being invoked by a program, the shared library function is operable to invoke the graphical program. Brandle teaches in response to being invoked by a program, the shared library function is operable to invoke the library procedures (When an application 16 ... and then calls it; col. 3, lines 36 - 54).

It would have been obvious to improve the system of Hullot by applying the teaching of Brandle because it provides a method that allows programs to call common library procedures using standard format (col. 2, lines 5-31).

32. **As to claim 33**, see rejection of claim 19 above.

33. **As to computer product claim 34**, it corresponds to the method claim of claim 1.

34. **As to claims 37-42**, see rejections of claims 4-9 above.

35. **As to claims 45-46**, see rejection of claims 12-13 above.

***Response to Arguments***

36. Applicant's arguments filed 4/12/2004 have been fully considered but they are not persuasive.

37. In the remarks, applicant argued in substance that (1) APA teaches away from Applicant's invention because it provides an indirect way for "enabling graphical programs to be called using shared library", and claim 20 includes novel features or limitation that address, at least in part, the drawbacks of the APA, (2) neither Brandle nor APA provides a motivation to combine and examiner has used hindsight to provide the motivation, (3) any combination with APA would includes an Active X out of process server, whereby the graphical program is invoked indirectly, and this feature is not found in claim 16 or claim 30, and (4) Hullet teaches

away from the Application's invention because Hullet discloses a graphical user interface, not function interface.

38. Examiner respectfully traversed Applicant's remarks:

As to the point (1), claim 20 does not claim whether the invention provide a direct way or indirect way to call the graphical program using a shared library, and Applicant did not provide which limitation that address the drawback of the APA at least in part, and even thought the limitations are interpreted in light of specification, it is improper to read the limitations from the specification.

As to the point (2), in response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). Brandle teaches library, not a DLL, however, DLL is a special of library that link at run time. One of ordinary skill in the art at the time the invention was made would motivate to combine the teaching of Brandle and APA because of the advantage of using DLLs.

As to the point (3), neither claims 16 nor 30 claimed the graphical program is invoked directly or indirectly, and the combination teaches all the limitations of claims 16 and 30. Therefore, the arguments are not persuasive.

As to the point (4), examiner agrees that Hullet discloses a graphical user interface, Hullet further teaches the graphical user interface is created to access the library by mapping the function's parameters to the input and output of the graphical user interface. Given the teaching, one of ordinary skill in the art at the time the invention was made would apply the concept of Hullet in the reverse direction.

### ***Conclusion***

39. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Diem K Cao whose telephone number is (703) 305-5220. The examiner can normally be reached on Monday - Thursday, 9:00AM - 5:00PM.

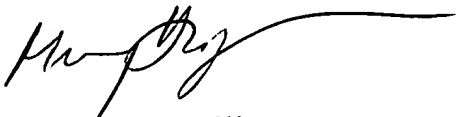
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (703) 305-9678. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**Any response to this action should be mailed to:**

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